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TRICHOPTERA FROM CAPE BRETON, NOVA SCOTIA.

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During the past two summers Mr. Graham Fairchild has collected a number of caddice flies on Cape Breton, Nova Scotia. Among them are several that are new, and others of which I have rarely received specimens. Most of the species were described by Francis Walker, who had material from the southern part of Nova Scotia.

Besides the 31 species recorded, there is a female of the genus *Lype*, a genus not before recorded from America, but well known in Europe.

PHRYGANEIDAE.

Neuronia postica Walk.

Two from Baddeck, 4, 8 July.

Neuronia pardalis Walk.

One from Baddeck, 7 July. A rather small light-colored specimen, the hind wings partly light on basal portion; we have a similar specimen from Anticosti.

Neuronia concatenata Walk.

Several specimens from Baddeck, 12, and 29 July, and Pt. Bevis, 10 July.

Phryganea cinerea Walk.

From Pt. Bevis, 10 July.

LIMNEPHILIDAE.

Arctoecia consocia Walk.

One from Baddeck, 9 Aug.

Glyphotaelius hostilis Hag.

From Baddeck, 14, 15, and 24 July.

Anabolia bimaculata Walk.

One from Baddeck, July.

Limnephilus combinatus Walk.

Several from Baddeck, 8, 17 July, 9 Aug.

Limnephilus ornatus Bks.

From Baddeck, 21 July, 1, 9, 13 Aug., and Ingonish, 7 Aug.

Limnephilus moestus Bks.

From Baddeck, 8, 10, 11, 12 July; Pt. Bevis, 10 July.

Limnephilus submonilifer Walk.

Many from Baddeck, 1, 3, and 14 Sept.

Platycentropus maculipennis Kol.

From Baddeck, 3 Sept.

Pycnopsyche scabripennis Rbr.

From Cape North, 1 Aug., also Englishtown.

Pycnopsyche guttifer Hag.

Two from Baddeck, 20 July, 14 Sept.

Caborius punctatissimus Walk.

From Baddeck, 3 Sept.

Anisogamus modestus Bks.

Four from Baddeck, 8 July.

Anisogamus divergens Walk.

Many from Baddeck, 11 Aug., 4 Sept.

Drusus sparsus Bks.

Several from Baddeck, 5, 8 July.

Hylepsyche indistinctus Walk.

One from Baddeck, 18 July; a very pale specimen 14 Sept.; both males with inner apical spur of hind tibia enlarged. A female from N. Sidney (Noble coll.) also has the spurs enlarged, but genitalia appear different.

Neophylax ornatus Bks.

A female from Baddeck, 8 July; a male from Middle River, 11 July. The male is marked much as female, but the pale is more broken by dark, so that in some of the pale cells or forks there are dark cross-bands.

SERICOSTOMATIDAE.

Alepomyia bryanti Bks.

A number of specimens from Pt. Bevis, 10 July, agree with types from Grand Lake, Newfoundland.

Mormomyia vernalis Bks.

One male from Baddeck, 4 Sept., with the characteristic long tufts of hair overhanging the genitalia.

Arcadopsyche gen. nov.

A Sericostomatid in the section of *Crunoecia*. Antennae widely separate at base, basal joint greatly elongate and enlarged, near tip curved downward, densely clothed with mostly erect, long hair. Vertex with a tuft of long hair each side from a tubercle near the eye; palpi (of male) recurved, densely clothed with long-stalked scales, forming a great mask over face; spurs 2, 4, 4. In fore wings the costal area is very broad, the discal cell slender, forks 1, 2, and 5, fifth connected beyond the forking to branch of medius; anal vein does not connect out to fork 5; the second anal (or axillary) runs into anal long before tip. In hind-wings the venation is similar to *Crunoecia*, but discal cell closed and smaller, and the apparent fork 3 not as wide at tip.

Related to *Olemira* by palpi and antennae, and with very similar venation in both wings, but lacks scales on fore wings, and the reflexed costal area.

Arcadopsyche prominens sp. nov.

Scales of palpi gray, iridescent and rather bluish at tips; hair on basal joint of antennae mostly deep black, but some white, beyond the antenna is pale, narrowly annulate with dark; vertex with mostly gray, but some black hair; thorax with mostly black hair; abdomen black toward tip, pale on base and beneath; legs pale, tibiae and tarsi darker outside. Wings fumose, with darker veins; short hair mostly yellowish, but some dark, large black patch just behind end of discal cell, smaller patches in area beyond, and some along anal margin; outer fringe largely black, but some patches of pale hair. Hind wings fumose, with darker fringe. Discal cell nearly as long as pedicel, lower branch of medius and fork 5 equally far basad, long cross-vein from fork 5 to branch of medius, very short cross-vein from anal to cubitus, and placed much before base of discal cell. Expanse 19 mm.

From Cape North, Cape Breton, Nova Scotia, 7 August.

LEPTOCERIDAE.

Œcetina micans Hag.

From Pt. Bevis, 10 July; also darker specimens from Baddeck, 20 July. Probably the same as *inconspicua* Walk. Walker's type is rather larger, and I have not seen specimens from as far south.

RHYACOPHILIDAE.

Rhyacophila atrata Bks.

From Middle River, 11 July.

Rhyacophila luctuosa Bks.

From Baddeck, 6 July, and North River, 13 July. Probably the same as Walker's *invaria*. From what I could see of the type the venation was the same, and the broad, emarginate superior process the same, but I could not see the shape of the apical part of the inferior appendage, but the length and size of inferior appendage was about the same as *luctuosa*.

Rhyacophila fairchildi sp. nov.

Head brown, with yellow and black hair; antennae mostly pale on basal part, beyond dark; palpi dark on apical part; lateral ocelli only about three diameters from the eyes; thorax with mostly yellow hair; legs pale, darker on front tibiae and tarsi, spurs dark; abdomen dark above, pale beneath, on upper sides with rather short, erect, pale hairs. Wings fuscous, stigma darker, clothed with short black hair, and many patches of golden hair, two large spots on anal margin; in apical half of wing the golden occupies most of the space; veins with long, erect black hair, some here and there golden. In fore-wings fork 2 is a little before fork 1, fork 3 scarcely as far basad as fork 1, cross-vein to radius close to fork 1; a rounded hyaline spot over forking of median vein. Expanse 14 mm.

From Baddeck, Cape Breton, Nova Scotia, 4 Sept.

HYDROPSYCHIDAE.

Hydropsyche indecisa Walk.

From Pt. Bevis, 10 July, and Baddeck, 31 July.

Dolophilus breviusculus Bks.

One from Pt. Bevis, 10 July.

Plectrocnemia aureola sp. nov.

Face with dark hair below antennae, above mostly yellowish, but a tuft of black each side near eye; antennae pale, faintly annulate with brown; thorax with mostly yellow hair; abdomen dark above, pale beneath; legs pale yellowish, front tibiae and tarsi darker on outer side, spurs pale. Fore-wings with mostly golden or yellowish hair, some patches of dark, mostly along the veins and at their ends, larger dark spots near end of anal, and over connection from anal to cubitus.

Fore-wings fairly broad; fork 1 a little longer than its pedicel, fork 2 a trifle back on discal cell, fork 3 and 4 subequal, not near as far basad as fork 2, fork 5 broad, as wide before middle as at tip. In the hind-wings fork 1 shorter than pedicel, fork 2 back a little on discal cell, fork 5 very broad, broader before middle than at tip. Male appendages show a very broad ventral plate, emarginate in middle. Expanse 16 mm.

From Baddeck, Cape Breton, Nova Scotia, 20 July, and Hampton, N. H., 1 July (S. A. Shaw).

Plectrocnemia albipuncta sp. nov.

Below antennae mostly black hair, above mostly white, a large patch of black on each side on vertex, thorax with mostly black, but some patches of white hair; antennae brown, annulate with pale; legs pale, outer side of tibiae and mostly beyond dark, spurs dark on outer side, pale beneath; abdomen dark above, paler beneath.

Fore-wings black, with many white spots, largely grouped, some near base, others tending to form band near middle, others near stigma and below, a few near tip, but marginal fringe black, close to base of wing is some erect, black hair; hind-wings slightly fumose, darker on tips. Fore-wings rather narrow for the genus; fork 1 longer than its pedicel, fork 2 back to cross-vein, forks 3 and 4 subequal, but not as far basad as fork 2. In hind-wing discal cell faintly closed (except in one specimen), fork 1 three times as long as pedicel, fork 2 scarcely back on cell; male appendages show a large curved plate each side. Expanse 15 mm.

From Pt. Bevis, 10 Aug., and Baddeck, 9 Aug., Cape Breton, Nova Scotia.

EXPLANATION OF PLATE.

- Fig. 1. *Arcadopsyche prominens*, fore wing.
- Fig. 2. *Plectrocnemia aureola*, genitalia, top.
- Fig. 3. *Plectrocnemia aureola*, genitalia, side.
- Fig. 4. *Rhyacophila fairchildi*, genitalia, side.
- Fig. 5. *Plectrocnemia aureola*, ventral plate.
- Fig. 6. *Plectrocnemia albipuncta*, genitalia, top.
- Fig. 7. *Rhyacophila fairchildi*, genitalia, top.
- Fig. 8. *Arcadopsyche prominens*, head and hair.
- Fig. 9. *Plectrocnemia albipuncta*, genitalia, side.
- Fig. 10. *Arcadopsyche prominens*, genitalia, side.

